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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,921	03/11/2004	Yoshihisa Nagasaki	5077-000206	6981

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EXAMINER

GUHARAY, KARABI

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/798,921

Applicant(s)

NAGASAKI ET AL.

Examiner

Karabi Guharay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment, filed on 02/01/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/26/2004</u> | 6) <input type="checkbox"/> Other: _____ |

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Amendment, filed on 01 February 2006 has been considered and entered.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the claimed fluorescent lamp having a non-linear discharge path" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5 & 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Fu et al. (US 6287,993).

Regarding claims 1, 3 & 9, Fu et al. disclose a fluorescent device comprising a phosphor adhesive glass composite and a phosphor (Abstract & lines 4-10 of column 1) wherein the phosphor adhesive glass composite is expressed by $x\text{SiO}_2 + y\text{B}_2\text{O}_3 + a\text{ZnO} + b\text{Al}_2\text{O}_3 + c\text{MgO} + m\text{XO}$ where X is at least one element selected from the group consisting of Ca, Sr and Ba, $5 \leq x \leq 70 \text{ mol\%}$; $0 \leq y \leq 30 \text{ mol\%}$, $x + y \geq 20 \text{ mol\%}$, $5 \leq m \leq 60 \text{ mol\%}$, $a \leq 40 \text{ mol\%}$, $b \leq 10 \text{ mol\%}$, $c \leq 10 \text{ mol\%}$, and $a+b+c \geq 10 \text{ mol\%}$ (lines 14-45 of column 2, & lines 23-45 of column 3).

Regarding claim 5, Fu et al. further disclose that the fluorescent device contains Tb^{3+} and $1 \leq \text{Tb}^{3+} \leq 4 \text{ mol\%}$ (activator Tb; Abstract & lines 64 of column 5-line 15 of column 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fu et al. (6, 287, 993), and further in view of Mori et al. (US 6459197).

Regarding claims 2-3, Fu et al. discloses all the limitations of claims 2-3 except for the phosphor material being europium activated yttrium oxysulfide, instead discloses europium activated yttrium oxide (lines 8-16 & 47-52 of column 7). Fu et al. further teaches for variety of colors different fluorescent materials are added.

However, in the same field of fluorescent device, Mori teaches that yttrium oxide or europium activated yttrium oxysulfide are art recognized equivalent material for red color emission (lines 18-28 of column 6).

Thus it would have been obvious to use yttrium oxysulfide phosphor instead of yttrium oxide since the selection of known equivalents are within the level of ordinary skill in the art.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juestel et al. (US 20020027420), and further in view of Fu et al. (6, 287, 993).

Regarding claims 6-7 & 8, Juestel et al. disclose a fluorescent lamp (1 of Fig 1) having a non-linear discharge path (bended tube of Fig 1) and a europium activated yttrium oxysulfide phosphor (paragraph 12) on the wall of the discharge tube.

However, Juestel et al. fails to teach a phosphor adhesive glass composite together with the phosphor material.

However, Fu et al. teach a phosphor adhesive glass composite having claimed composition (see rejection of claims 1 & 3) and further disclose that such glass ceramic.

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composite with phosphor material provides a long-lasting phosphorescence and is capable of providing rich variety of colors when irradiated by UV radiation (lines 1-11 of column 1).

Juestel's fluorescent device produces UV radiation from the discharge and irradiates the phosphor on the wall to produce phosphorescence.

Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the glass composite, as disclosed by Fu et al. in the device of Juestel et al. since this will provide a long lasting luminescent colors.

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure : Srivastava et al. (US 7,019,452); Sakakibara et al. (US 20010036076); Yamazaki et al. (US 5665660); Yamazaki et al. (US 6123872).

Response to Arguments

Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

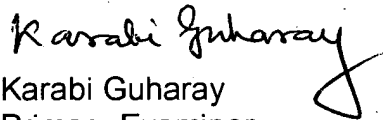
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Karabi Guharay
Primary Examiner
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